

solution for communicating with a computer having a dynamic IP address, in contrast to West et al.

IN THE DISCLOSURE:

Please delete pages 7, 8 and 11 presently on file and substitute therefor amended pages 7, 8 and 11 including the following amendments submitted herewith:

The Registration Routine 21 is engaged periodically to update the directory service program 28 to address possible changes to the private server's 14 internet protocol address or its communication session with the second computer (the location facility).

This change has been made, without adding new subject matter, to clarify the already disclosed role of the directory service program 28.

REFERENCES CITED:

US 6,538,996; US 6,396,849; US 6,128,129; US 6,349,289; US 6,397,254

CLAIMS:

Agent for applicant requests that Claims 1-26 be deleted entirety. Instead, Agent for Applicant requests that the following New Claims be added. The new claims (27-67) have been renumbered as claims 1-42. A clean copy of the new claims is attached hereto.

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27. [New] A system for providing access to a first computer with a dynamic IP address from a remote computer comprising:
- a) a first computer linked to the Internet and associated with a dynamic IP address, the first computer being further linked to a data communication facility, wherein the data communication facility is adapted to create and send a communication that includes data for locating the first computer;
 - b) a second locator server computer linked to the Internet, associated with a static IP address, and including a location facility for locating the first computer; and
 - c) a remote computer linked to the Internet, the remote computer including a communication facility;
- wherein the communication facility enables the remote computer to connect to the second locator server computer, and to provide an identifier of the first computer to the second locator server computer so as to request communication with the first computer; and
- wherein the second locator server computer locates the first computer via its dynamic IP address communication session, and thereby enables a communication session to be set up between the first computer and the remote computer.
28. [New] The system as claimed in claim 2, wherein the first computer is linked to the Internet directly or via an Internet gateway/proxy.
28. [New] A system as claimed in claim 1, wherein the first computer further includes a database linked to the data communication facility, and said system provides means for remotely accessing said database from the remote computer.
29. [New] A system as claimed in claim 2, wherein said system enables communication settings associated with the data communication facility to be set remotely from the remote computer.
30. [New] A system as claimed in claim 1, wherein said location facility enables the current location of the first computer to be known to the second locator server computer.
31. [New] A system as claimed in claim 5, wherein the location facility includes a dynamic location directory, wherein said dynamic location directory is responsive to the communication from the first computer, including data for locating and/or communicating with the first computer, to dynamically store such data to a server database linked to the second locator server computer.
32. [New] A system as claimed in claim 6, wherein the location facility is responsive to the request from the remote computer for communication with the first computer to

retrieve the current location and port number or the current communication session associated with the first computer from the dynamic location directory, and provide said current location and port number, or the current communication session, to the remote computer.

33. [New] A system as claimed in claim 6, wherein said data communication facility creates and sends the communication including the current location or the current communication session of the first computer to the second locator server computer periodically.
34. [New] A system as claimed in claim 8, wherein said system further includes a security facility for restricting access to the second locator server computer to one or more authorized users only.
35. [New] A system as claimed claim 9, wherein said data communication facility further includes a communication interface for sending and receiving data communications.
36. [New] A system as claimed in claim 1, wherein said data communication facility interfaces with data generating facilities linked to the database, so as to provide remote access to data created by the data generating facilities from the remote computer.
37. [New] A system as claimed in claim 1, wherein said data communication facility further includes a private messaging and contact facility linked to the database for processing and managing messages and contact data in co-operation with said communication interface.
38. [New] A system as claimed in claim 12, wherein said private messaging and contact facility includes a unified messaging facility and a contact information facility, each being linked to the database.
39. [New] A system as claimed in claim 13, wherein said unified messaging facility enables the remote management of messages linked to the database from the remote computer.
40. [New] A system as claimed in claim 14, wherein said unified messaging facility enables reading, replying and managing said messages remotely from the remote computer.
41. [New] A system as claimed in claim 15, wherein said messages include e-mails, facsimiles and/or voice mails.
42. [New] A system as claimed in claim 16, wherein said unified messaging facility includes an e-mail message facility.

43. [New] A system as claimed in claim 17, wherein said unified messaging facility further includes a fax message management facility.
44. [New] A system as claimed in claim 18, wherein said unified messaging facility further includes a voice message facility.
45. [New] A system for providing access to a first computer from a remote computer, wherein the first computer is linked to the Internet and associated with a dynamic IP address, the first computer being further linked to a data communication facility, the system comprising:
- a) a locator server computer linked to the Internet, associated with a static IP address, and including a location facility for locating the first computer;
- wherein the locator server computer is responsive to a request for communication from the remote computer so as to enable the remote computer to connect to the locator server computer, and to provide an identifier of the first computer;
- and wherein, in response, the location facility locates the first computer via its dynamic IP address communication session, and thereby enables a communication session to be set up between the first computer and the remote computer.
46. [New] A method of providing access to a first computer linked to the Internet and associated with a dynamic IP address from a remote computer, the method comprising the steps of:
- a) Registering the first computer with a locator server computer, the locator server computer being linked to the Internet, associated with a static IP address, and including a location facility for locating the first computer;
 - b) Connecting from the remote computer to the locator server computer, thereby requesting communication with the first computer from the remote computer;
 - c) The locator server computer, in response, locating the first computer via its dynamic IP address communication session;
 - d) The locator server computer thereby setting up a communication session between the first computer and the remote computer.
47. [New] The method claimed in claim 21, further comprising the step of the locator server computer storing the current location of the first computer into a directory linked to the location facility, the current location being obtained from a communication sent by the first computer to the locator server computer.
48. [New] A computer readable memory having recorded thereon statements and instructions for execution by a computer to carry out the method of claim 21.

49. [New] A computer program product for use on a server computer linked to the Internet and having a static IP address, for enabling access to a first computer linked to the Internet and having a dynamic IP address from a remote computer, the computer program product comprising:
- a) A computer usable medium;
 - b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a server computer program on the server computer wherein:
 - i) The server computer program is adapted to enable a connection between the remote computer and the server computer;
 - ii) The server computer program is responsive to a request from the remote computer to communicate with the first computer so as to locate the first computer via its dynamic IP address communication session thereby setting up a communication session between the first computer and the remote computer.
50. [New] The computer program product claimed in claim 24, wherein the location facility is responsive to a communication from the first computer including its current location to store the current location to a storage medium linked to the server computer.
51. [New] A computer program product for use on a first computer linked to the Internet and having a dynamic IP address, for enabling access to the first computer from a remote computer, via a locator server computer linked to the Internet and having a static IP address, the computer program product comprising:
- a) A computer usable medium;
 - b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a data communication program on the first computer:
 - i) The data communication program is adapted to send a communication to the locator server computer that includes data for locating the first computer; and
 - ii) The data communication program is adapted to communicate with the remote computer by means of a communication session created by the locator server computer between the first computer and the remote computer.
52. [New] The computer program product as claimed in claim 26, wherein the first computer is linked to the Internet directly or via an Internet gateway/proxy.
53. [New] A computer program product as claimed in claim 27, wherein the first computer further includes a database linked to the data communication program, and

said system provides means for remotely accessing said database from the remote computer.

54. [New] A computer program product as claimed in claim 28, wherein said data communication program enables communication settings associated with the data communication program to be set remotely from the remote computer.
55. [New] A computer program product as claimed in claim 29, wherein said data communication program enables the current location of the first computer to be known to the second locator server computer.
56. [New] A computer program product as claimed in claim 30, wherein said data communication program creates and sends the communication including the current location or the current communication session of the first computer to the second locator server computer periodically.
57. [New] A computer program product as claimed claim 31, wherein said data communication program further includes, or is linked to, a communication interface for sending and receiving data communications.
58. [New] A computer program product as claimed in claim 32, wherein said data communication program interfaces with data generating facilities linked to the database, so as to provide remote access to data created by the data generating facilities from the remote computer.
59. [New] A computer program product as claimed in claim 33, wherein said data communication program further includes a private messaging and contact facility linked to the database for processing and managing messages and contact data in co-operation with said communication interface.
60. [New] A computer program product as claimed in claim 34, wherein said private messaging and contact facility includes a unified messaging facility and a contact information facility, each being linked to the database.
61. [New] A computer program product as claimed in claim 35, wherein said data communication program further includes, or is linked to, a remote message management facility linked to the database.
62. [New] A computer program product as claimed in claim 36, wherein said unified messaging facility enables reading, replying and managing said messages remotely from the remote computer.
63. [New] A computer program product as claimed in claim 37, wherein said messages include e-mails, facsimiles and/or voice mails.

64. [New] A computer program product as claimed in claim 38, wherein said unified messaging facility includes an e-mail message facility.
65. [New] A computer program product as claimed in claim 39, wherein said unified messaging facility further includes a fax message management facility.
66. [New] A computer program product as claimed in claim 41, wherein said unified messaging facility further includes a voice message facility.
67. [New] A computer program product for enabling enables access to a first computer linked to the Internet and having a dynamic IP address from a remote computer, the computer program product being for use on the remote computer, the computer program product comprising:
- a) A computer usable medium;
 - b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a data communication program on the first computer:
 - i) The data communication program defines or is linked to a browser facility operable on the remote computer, and adapted to send a request to a second locator server computer for communication with the first computer;
 - ii) The data communication is adapted to respond to the second locator server computer locating the first computer by engaging in a communication session between the remote computer and the first computer, the communication session being established by operation of a location facility linked to the second locator server computer.

AMENDMENTS TO THE CLAIMS

West et al. discloses a system that enables connection of a remote computer to a local computer or a location area network via the most desirable communication path. In other words West et al. is concerned about the communication network route between the remote computer and the local computer. It does not deal with the problem of locating a computer associated with a dynamic IP address in a reliable fashion. The present invention therefore is directed to a technology that is very different from that disclosed in West et al. in all respects.

All of the claims have been amended to more clearly focus on this aspect of the invention.

This aspect of the invention is not contemplated by West et al., or any other prior art of which the Applicant or Agent for Applicant is aware. Further, it would not have been obvious to a person of ordinary skill in the art at the time of the invention to have modified Kloba to meet the expectations of the present application.

-19-

CLAIMS

WE CLAIM:

- 5 1) A system for providing access to a first computer with a dynamic IP address from a remote computer comprising:
- a) a first computer linked to the Internet and associated with a dynamic IP address, the first computer being further linked to a data communication facility, wherein the data communication facility is adapted to create and send a communication that includes data for locating the first computer;
 - 10 b) a second locator server computer linked to the Internet, associated with a static IP address, and including a location facility for locating the first computer; and
 - c) a remote computer linked to the Internet, the remote computer including a communication facility;
- 15 wherein the communication facility enables the remote computer to connect to the second locator server computer, and to provide an identifier of the first computer to the second locator server computer so as to request communication with the first computer; and
- wherein the second locator server computer locates the first computer via its dynamic IP address communication session, and thereby enables a communication session to be set up between the first computer and the remote computer.
- 20 2) The system as claimed in claim 2, wherein the first computer is linked to the Internet directly or via an Internet gateway/proxy.
- 3) A system as claimed in claim 1, wherein the first computer further includes a database linked to the data communication facility, and said system provides means for remotely accessing said database from the remote computer.
- 25 4) A system as claimed in claim 2, wherein said system enables communication settings associated with the data communication facility to be set remotely from the remote computer.
- 5) A system as claimed in claim 1, wherein said location facility enables the current location of the first computer to be known to the second locator server computer.

-20-

- 6) A system as claimed in claim 5, wherein the location facility includes a dynamic location directory, wherein said dynamic location directory is responsive to the communication from the first computer, including data for locating and/or communicating with the first computer, to dynamically store such data to a server database linked to the second locator server computer.
- 5 7) A system as claimed in claim 6, wherein the location facility is responsive to the request from the remote computer for communication with the first computer to retrieve the current location and port number or the current communication session associated with the first computer from the dynamic location directory, and provide said current location and port number, or the current communication session, to the remote computer.
- 10 8) A system as claimed in claim 6, wherein said data communication facility creates and sends the communication including the current location or the current communication session of the first computer to the second locator server computer periodically.
- 9) A system as claimed in claim 8, wherein said system further includes a security facility for restricting access to the second locator server computer to one or more authorized users only.
- 15 10) A system as claimed claim 9, wherein said data communication facility further includes a communication interface for sending and receiving data communications.
- 11) A system as claimed in claim 1, wherein said data communication facility interfaces with data generating facilities linked to the database, so as to provide remote access to data created by the data generating facilities from the remote computer.
- 20 12) A system as claimed in claim 1, wherein said data communication facility further includes a private messaging and contact facility linked to the database for processing and managing messages and contact data in co-operation with said communication interface.
- 13) A system as claimed in claim 12, wherein said private messaging and contact facility includes a unified messaging facility and a contact information facility, each being linked to the database.
- 25 14) A system as claimed in claim 13, wherein said unified messaging facility enables the remote management of messages linked to the database from the remote computer.

-21-

- 15) A system as claimed in claim 14, wherein said unified messaging facility enables reading, replying and managing said messages remotely from the remote computer.
- 16) A system as claimed in claim 15, wherein said messages include e-mails, facsimiles and/or voice mails.
- 5 17) A system as claimed in claim 16, wherein said unified messaging facility includes an e-mail message facility.
- 18) A system as claimed in claim 17, wherein said unified messaging facility further includes a fax message management facility.
- 19) A system as claimed in claim 18, wherein said unified messaging facility further includes a voice
10 message facility.
- 20) A system for providing access to a first computer from a remote computer, wherein the first computer is linked to the Internet and associated with a dynamic IP address, the first computer being further linked to a data communication facility, the system comprising:
- a) a locator server computer linked to the Internet, associated with a static IP address, and
15 including a location facility for locating the first computer;
- wherein the locator server computer is responsive to a request for communication from the remote computer so as to enable the remote computer to connect to the locator server computer, and to provide an identifier of the first computer;
- and wherein, in response, the location facility locates the first computer via its dynamic IP address
20 communication session, and thereby enables a communication session to be set up between the first computer and the remote computer.
- 21) A method of providing access to a first computer linked to the Internet and associated with a dynamic IP address from a remote computer, the method comprising the steps of:
- a) Registering the first computer with a locator server computer, the locator server computer
25 being linked to the Internet, associated with a static IP address, and including a location facility for locating the first computer;
- b) Connecting from the remote computer to the locator server computer, thereby requesting communication with the first computer from the remote computer;

-22-

- c) The locator server computer, in response, locating the first computer via its dynamic IP address communication session;
 - d) The locator server computer thereby setting up a communication session between the first computer and the remote computer.
- 5 22) The method claimed in claim 21, further comprising the step of the locator server computer storing the current location of the first computer into a directory linked to the location facility, the current location being obtained from a communication sent by the first computer to the locator server computer.
- 10 23) A computer readable memory having recorded thereon statements and instructions for execution by a computer to carry out the method of claim 21.
- 24) A computer program product for use on a server computer linked to the Internet and having a static IP address, for enabling access to a first computer linked to the Internet and having a dynamic IP address from a remote computer, the computer program product comprising:
- a) A computer useable medium;
 - 15 b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a server computer program on the server computer wherein:
 - i) The server computer program is adapted to enable a connection between the remote computer and the server computer;
 - 20 ii) The server computer program is responsive to a request from the remote computer to communicate with the first computer so as to locate the first computer via its dynamic IP address communication session thereby setting up a communication session between the first computer and the remote computer.
- 25 25) The computer program product claimed in claim 24, wherein the location facility is responsive to a communication from the first computer including its current location to store the current location to a storage medium linked to the server computer.
- 30 26) A computer program product for use on a first computer linked to the Internet and having a dynamic IP address, for enabling access to the first computer from a remote computer, via a locator server computer linked to the Internet and having a static IP address, the computer program product comprising:

-23-

- a) A computer usable medium;
 - b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a data communication program on the first computer:
- 5 i) The data communication program is adapted to send a communication to the locator server computer that includes data for locating the first computer; and
- ii) The data communication program is adapted to communicate with the remote computer by means of a communication session created by the locator server computer between the first computer and the remote computer.
- 10 27) The computer program product as claimed in claim 26, wherein the first computer is linked to the Internet directly or via an Internet gateway/proxy.
- 28) A computer program product as claimed in claim 27, wherein the first computer further includes a database linked to the data communication program, and said system provides means for remotely accessing said database from the remote computer.
- 15 29) A computer program product as claimed in claim 28, wherein said data communication program enables communication settings associated with the data communication program to be set remotely from the remote computer.
- 30) A computer program product as claimed in claim 29, wherein said data communication program enables the current location of the first computer to be known to the second locator server
- 20 computer.
- 31) A computer program product as claimed in claim 30, wherein said data communication program creates and sends the communication including the current location or the current communication session of the first computer to the second locator server computer periodically.
- 32) A computer program product as claimed claim 31, wherein said data communication program
- 25 further includes, or is linked to, a communication interface for sending and receiving data communications.
- 33) A computer program product as claimed in claim 32, wherein said data communication program interfaces with data generating facilities linked to the database, so as to provide remote access to data created by the data generating facilities from the remote computer.

-24-

- 34) A computer program product as claimed in claim 33, wherein said data communication program further includes a private messaging and contact facility linked to the database for processing and managing messages and contact data in co-operation with said communication interface.
- 5 35) A computer program product as claimed in claim 34, wherein said private messaging and contact facility includes a unified messaging facility and a contact information facility, each being linked to the database.
- 36) A computer program product as claimed in claim 35, wherein said data communication program further includes, or is linked to, a remote message management facility linked to the database.
- 10 37) A computer program product as claimed in claim 36, wherein said unified messaging facility enables reading, replying and managing said messages remotely from the remote computer.
- 38) A computer program product as claimed in claim 37, wherein said messages include e-mails, facsimiles and/or voice mails.
- 39) A computer program product as claimed in claim 38, wherein said unified messaging facility includes an e-mail message facility.
- 15 40) A computer program product as claimed in claim 39, wherein said unified messaging facility further includes a fax message management facility.
- 41) A computer program product as claimed in claim 41, wherein said unified messaging facility further includes a voice message facility.
- 20 42) A computer program product for enabling enables access to a first computer linked to the Internet and having a dynamic IP address from a remote computer, the computer program product being for use on the remote computer, the computer program product comprising:
- 25 a) A computer usable medium;
- b) Computer readable program code recorded or storable in the computer useable medium, the computer readable program code defining a data communication program on the first computer:
- i) The data communication program defines or is linked to a browser facility operable on the remote computer, and adapted to send a request to a second locator server computer for communication with the first computer;

-25-

- ii) The data communication is adapted to respond to the second locator server computer locating the first computer by engaging in a communication session between the remote computer and the first computer, the communication session being established by operation of a location facility linked to the second locator server computer.